ORDER NO. AD9106171A8

Service Manual

Radio

RF-B45

FM-LW-MW-SW ALL BAND RECEIVER

- Please file and use this Service Manual together with the service manual for Model No. RF-B45 Order No. AD9105142C1.
- This Service Manual indicates the main differences between; Original RF-B45 (PP) and RF-B45 (E) (EG) (EI) (G) (GN).

Color

(K) ..... Black Type

Areas

Country Code	Area	Color
(E)	Continental Europe	(K)
(EG)	F.R. Germany	
(EI)	Italy	
(G)	Asia, Latin America, Middle Near East and Africa	
(GN)	Oceania	

CHANGES

■ REPLACEMENT PARTS LIST

Notes: • Important safety notice;
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components use only manufacturer's specified parts.
• The parenthesized indication in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Description	Change of Part Number		Remarks
		RF-B45 (PP) (Original)	**RF-B45 (E) (EG) (EI) (G) (GN)**	
COIL				
L2	COIL	RLQZP220KT-Y	**DELETED**	(EG) (EI)
JACK				
J2	JACK, EXT ANT.	RJJD5M2ZA-H	**DELETED**	(EG) (EI)
RESISTOR				
R5	RESISTOR	ERJ6GEYJ103V	**DELETED**	(EG) (EI)
R6	RESISTOR	ERJ6GEYJ331V	**DELETED**	(EG) (EI)
CAPACITOR				
C7	CAPACITOR	ECUV1H681K	**DELETED**	(EG) (EI)
C34	CAPACITOR	ECUV1H221KN	**DELETED**	(EG) (EI)

Panasonic

Ref. No.	Description	Change of Part Number		Remarks
		RF-B45 (PP) (Original)	RF-B45 (E) (EG) (EI) (G) (GN)	
CABINET PARTS				
13	FRONT CABINET ASS'Y	RFKKFB45PP	**RFKKFB45E**	(E) (EG) (G) (GN)
			RFKKFB45EI	(EI)
17	REAR CABINET ASS'Y	RFKHFB45PP	**RFKHFB45E**	(E) (GN)
			RFKHFB45EG	(EG)
			RFKHFB45EI	(EI)
			RFKHFB45G	(G)
PACKING MATERIALS				
P1	GIFT BOX	RPK0271	**RPK0283**	(E) (EG) (EI)
			RPK0285	(G)
			RPK0284	(GN)
P4	PAD, UPPER	——	**RPN0506 (ADDED)**	(G) (GN)
P5	SPACER	——	**RPN0533 (ADDED)**	(G)
ACCESSORIES				
A3	EXT ANT.	RSA0002	**DELETED**	(EG) (EI)
A4	INSTRUCTION MANUAL	RQT1135-Y	**RQT1170-E**	(E) (EG) (EI)
			RQT1169-G	(G) (GN)
A6 ⚠	AC ADAPTOR	——	**RD9496GR (ADDED)**	(G)

ORDER NO. AD9105142C1
A1

Service Manual

Radio

RF-B45

FM-LW-MW-SW ALL BAND RECEIVER

Color

(K) ..... Black Type

Areas

Country Code	Area	Color
(PP)	U.S.A.	(K)

■ SPECIFICATIONS

Frequency Range:	FM; 87.5~108 MHz LW; 144~288 kHz MW; 520~1610 kHz (at 10 kHz step) 522~1611 kHz (at 9 kHz step) SW; 1,620~29,995 kHz
Intermediate Frequency:	FM; 10.7 MHz AM 1st; 55,845 kHz AM 2nd; 459 kHz
Sensitivity:	FM; 4 µV/50 mW output (–3 dB Limit Sens.) LW; 600 µV/m/50 mW output MW; 180 µV/m/50 mW output SW; 10 µV/50 mW output
Power Source:	Battery; 6 V (four "AA" size batteries) (Panasonic UM3/R6P, AM3/LR6 or equivalent) AC; 120 V, 60 Hz with optional Panasonic AC adaptor RP-65
Speaker:	8 cm (3") PM dynamic speaker, 8Ω
Power Output:	600 mW (RMS Max.)
Jacks:	Earphone; 8Ω, Ø3.5 EXT. ANT. (LW/MW/SW); Ø3.5 DC IN; 6 V
Dimensions:	204 (W)×119 (H)×37 (D) mm (8 1/16"×4 11/16"×1 7/16")
Weight:	620 g (1 lb. 6 oz.) without batteries

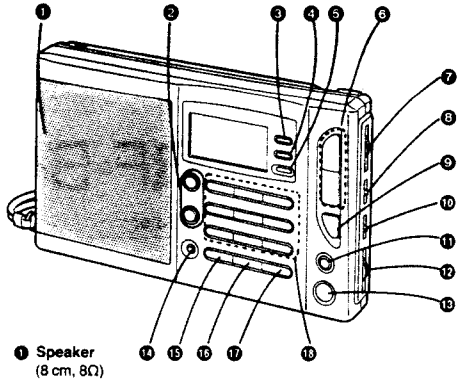
Notes:

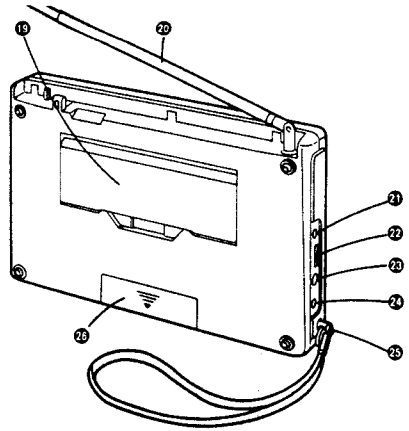
1. Weights and dimensions shown are approximate.
2. Design and specifications are subject to change without notice.

Panasonic®

Printed in Japan
F910610000HS/KH

■ LOCATION OF CONTROLS





❶ **Speaker**
(8 cm, 8Ω)

❷ **Band select keys (FM, AM/LW • MW • SW)**

❸ **Standby key (STANDBY)**

❹ **Standby set key (STANDBY SET)**
Press the key to set the time you want to turn on the radio automatically.

❺ **Memory/time set key (MEMORY/TIME SET)**
Press the key when setting the clock time. In memory tuning, press to preset the stations.

❻ **Tuning keys (TUNING +, −)**
Press the + key or − key to make the frequency change up or down.

❼ **Fine tuning control (FINE TUNING)**
When receiving the MW, LW, SW and SSB, use this control for more precise tuning.

❽ **AM mode selector (MODE)**

❾ **Auto tuning key (AUTO TUNING)**

❿ **Tone selector (TONE)**

⓫ **Sleep key (SLEEP)**
Press the key to turn off the radio automatically in 90, 60 or 30 minutes.

⓬ **Volume control (VOLUME)**

⓭ **Power key (POWER)**
Press to turn on or off the radio.

⓮ **Hold key (HOLD)**
Press to hold the present condition.

⓯ **Frequency direct access key (FREQ)**
When you know the frequency of your desired station, press the key before entering the frequency number.

⓰ **Number "0"/13 meter band/memory search key (MEMORY SEARCH)**

⓱ **Meter band direct access/enter key (METER/ENTER)**
Press the key before calling the lowest frequency of the SW meter band that you desire to listen to.
After entering the frequency number of your desired station or a clock time, press the key to begin receiving the broadcast of the station or to complete the time setting.

⓲ **Number/memory channel/meter band keys**

⓳ **Stand**

By using the stand, it is easy to operate.

⓴ **Telescopic antenna**

㉑ **SW external antenna jack (EXT ANT) (∅3.5)**

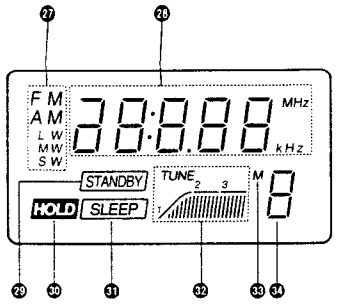
㉒ **Sensitivity selector (SENS)**
Normally set to "DX". When the signal is too strong and the sound is distorted, set to "LOCAL".

㉓ **DC input jack (DC IN 6 V ⊖-⊃-⊕)**

㉔ **Earphone jack (🎧) (8Ω, ∅3.5)**
Connect the included earphone to the jack. When using the earphone, avoid listening to sound at excessive volume levels to prevent hearing disorder.
Speakers are automatically cut off when the earphone are connected.

㉕ **Carrying strap**

㉖ **Battery compartment**



㉗ **Band indicators**
Received band appears.

㉘ **Multi indicator**

㉙ **Standby indicator**
Appears while the standby function is operating. Or flashes while the standby time is being set.

㉚ **Hold indicator**

㉛ **Sleep indicator**
Appears while the sleep timer is operating.

㉜ **Tuning indicator**
Appears when a signal is received.
The bar display indicates the receiving signal strength.

㉝ **Memory indicator**
Appears when memory tuning is done, or flashes when you memorize a frequency.

㉞ **Memory channel/empty indicator**
Indicates the memory channel when the frequency is received by memory tuning.

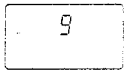
How to change the step of MW (10 kHz⟷9 kHz)

This unit can be used on MW 10 kHz step area, but in case of MW 9 kHz step area, operate as follows.

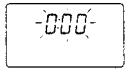
Before operation, turn off the radio.

1 **Press the AM key of the band select keys.**
"MW" indication flashes for 10 seconds.

2 **During flashing, press the number "9" key.**
"9" appears and flashes for 10 seconds and returns clock time display.



3 **While flashing, press the enter key.**
" 000 " flashes on the display.



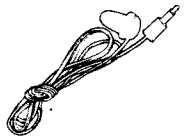
When you want to set MW 10 kHz step, press the number "0" key instead of the number "9" key.
"10" flashes on the display.

NOTE:
When you change the MW step, all the memorized stations will be cleared.

■ ACCESSORIES

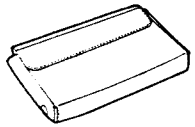
SW external antenna . . 1 pc.
Earphone . . . . . 1 pc.

RSA0002



XEH1A1-AB

Soft case . . . . . 1 pc.



RFC0013

■ NOTE FOR SERVICE

•About hold switch

Before checking the operation problems and adjustments, be sure to release the hold state.

Setting the hold key to "HOLD" position will hold the present condition, and reject the operation of the front panel buttons. This is useful to prevent unexpected operation.
(The hold indicator will appear on the display.)
Before operating the front panel button, be sure to release the hold condition. (The hold indicator will disappear.)

BATTERY SERVICE LIFE

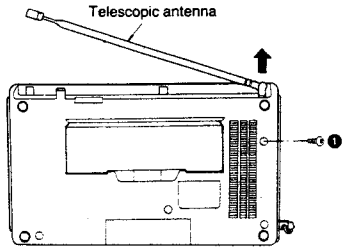
R6, "AA" size batteries
Approx. 14.5 hours of FM position (EIAJ)
Approx. 13 hours of LW and MW position (EIAJ)
Approx. 14 hours of SW position (EIAJ)

The above battery service life is measured according to the conditions set forth by EIAJ (Electronic Industries Association of Japan). As the battery service life varies with the method of operation and environmental conditions, use these values as reference.

■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1 — **Removal of the Telescopic Antenna**

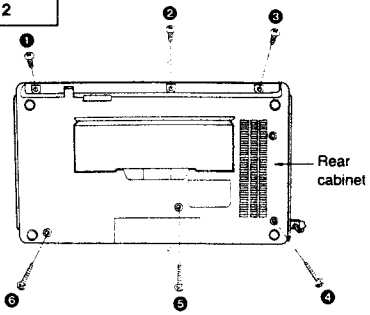
Procedure 1



1. Remove the 1 screw (❶).
2. Remove the telescopic antenna in the direction of arrow.

Ref. No. 2 — **Removal of the Rear Cabinet**

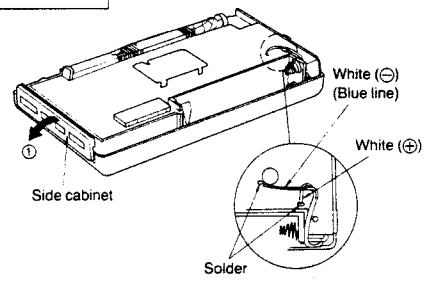
Procedure 1→2



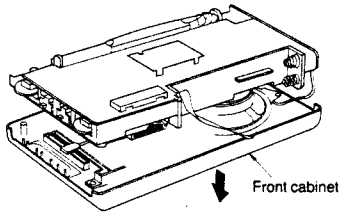
•Remove the 6 screws (❶~❻).

Ref. No. 3 — **Removal of the Side Cabinet and Front Cabinet**

Procedure 1→2→3



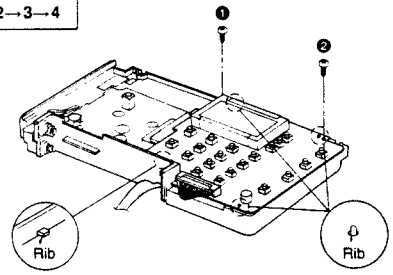
■ **Side Cabinet**
•Remove the side cabinet in the direction of arrow.



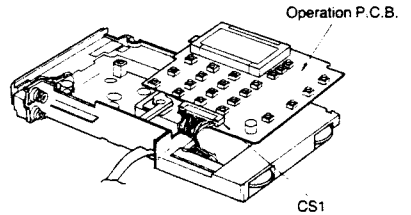
■ **Front Cabinet**
1. Unsolder the 2 terminals of the lead wire.
2. Remove the front cabinet ass'y in the direction of arrow ②.

Ref. No. 4 — **Removal of the Operation P.C.B.**

Procedure 1→2→3→4

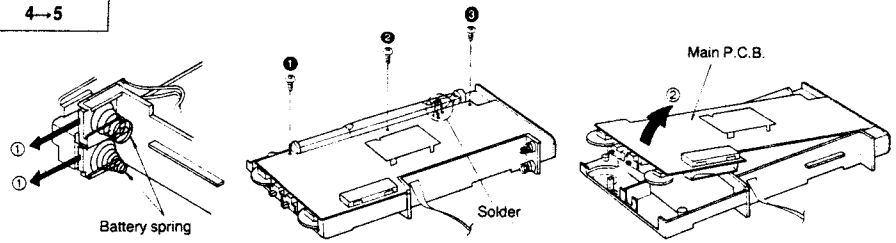


1. Remove the 2 screws (❶, ❷).
2. Release the 4 ribs.



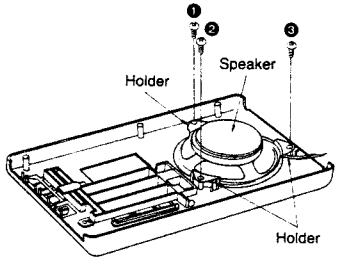
3. Remove the 1 connector (CS1).

Ref. No. 5	Removal of the Main P.C.B.
Procedure 1→2→3→ 4→5	



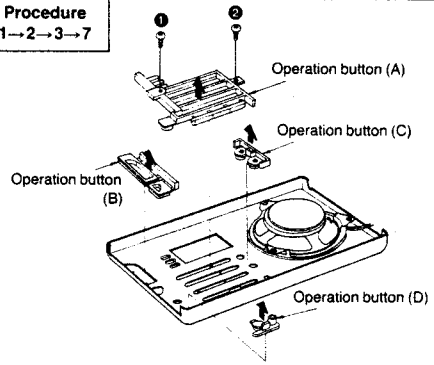
1. Remove the battery spring in the direction of arrow ①.
2. Remove the 3 screws (❶~❸).
3. Unsolder the 4 terminals of the lead wire.
4. Remove the main P.C.B. in the direction of arrow ②.

Ref. No. 6	Removal of the speaker
Procedure 1→2→3→6	



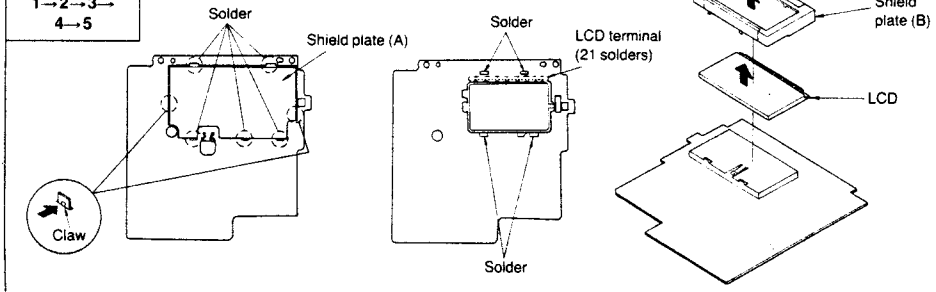
1. Remove the 3 screws (❶~❸).
2. Remove the holder.

Ref. No. 7	Removal of the operation buttons
Procedure 1→2→3→7	



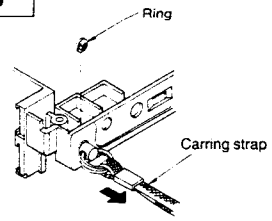
1. Remove the 2 screws (❶, ❷).
2. Remove the operation buttons in the direction of arrow.

Ref. No. 8	Removal of the LCD
Procedure 1→2→3→ 4→5	



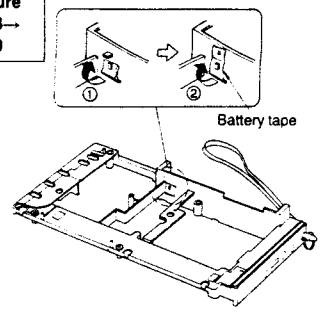
1. Remove the 5 solders point.
2. Release the 2 claws and then remove the shield plate (A).
3. Remove the 4 solders point.
4. Remove the 21 solders of the LCD terminal.
5. Remove the shield plate (B) and LCD.

Ref. No. 9	Removal of the carring strap
Procedure 1→2→3→ 4→5→9	



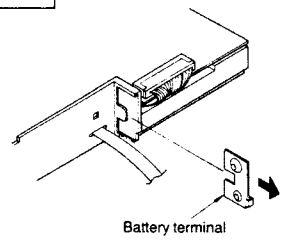
1. Remove the ring.
2. Remove the carring strap in the direction of arrow.

Ref. No. 10	Removal of the battery tape
Procedure 1→2→3→ 4→10	



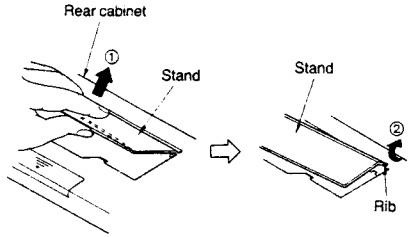
●Remove the battery tape in the direction of arrow ①, ②.

Ref. No. 11	Removal of the battery terminal
Procedure 1→2→3→11	



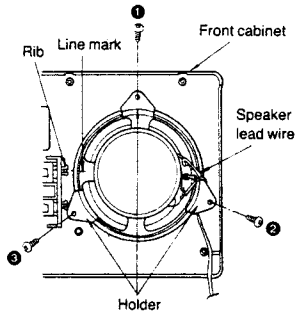
●Pull out the battery terminal in the direction of arrow.

Ref. No. 12	Removal of the stand
Procedure 12	



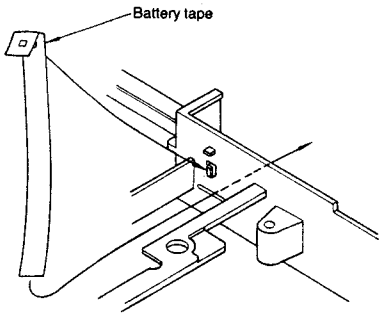
1. Bend the stand as shown above by pressing it in the direction of arrow ①.
2. Remove the rib in the direction of arrow ②.

■ SPEAKER ASSEMBLY



1. Fit the line mark on the speaker with the rib's center.
2. Fix the speaker's lead wired by using Holder as shown above.
3. Install the speaker with the three screws (❶~❸).

■ BATTERY ASSEMBLY



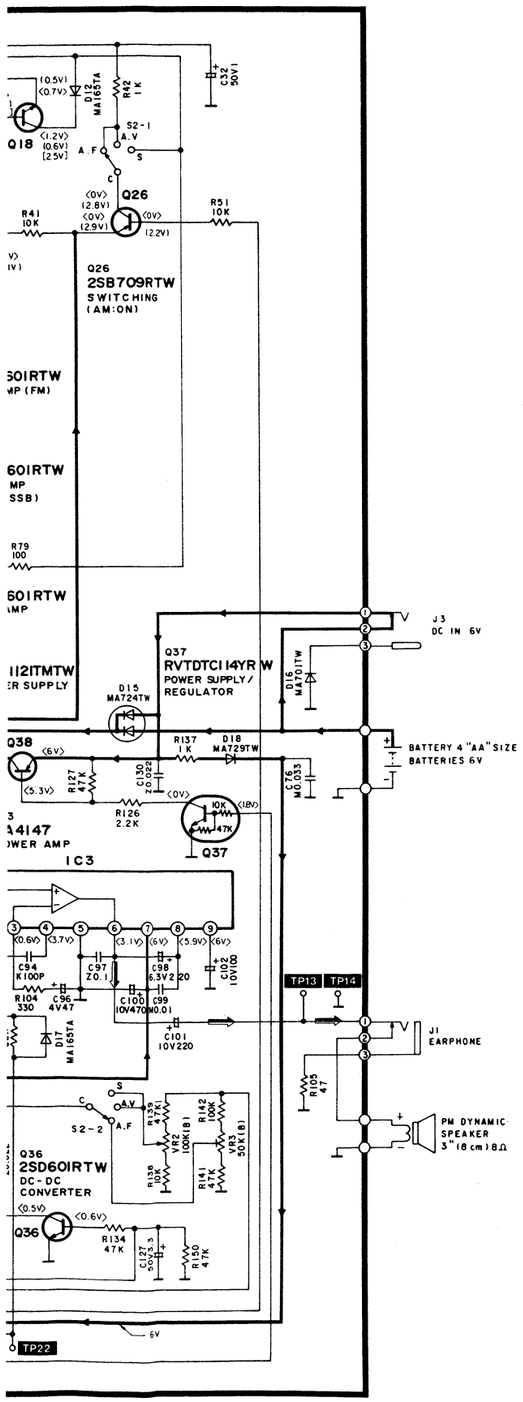
■ SCHEMATIC DIAGRAM

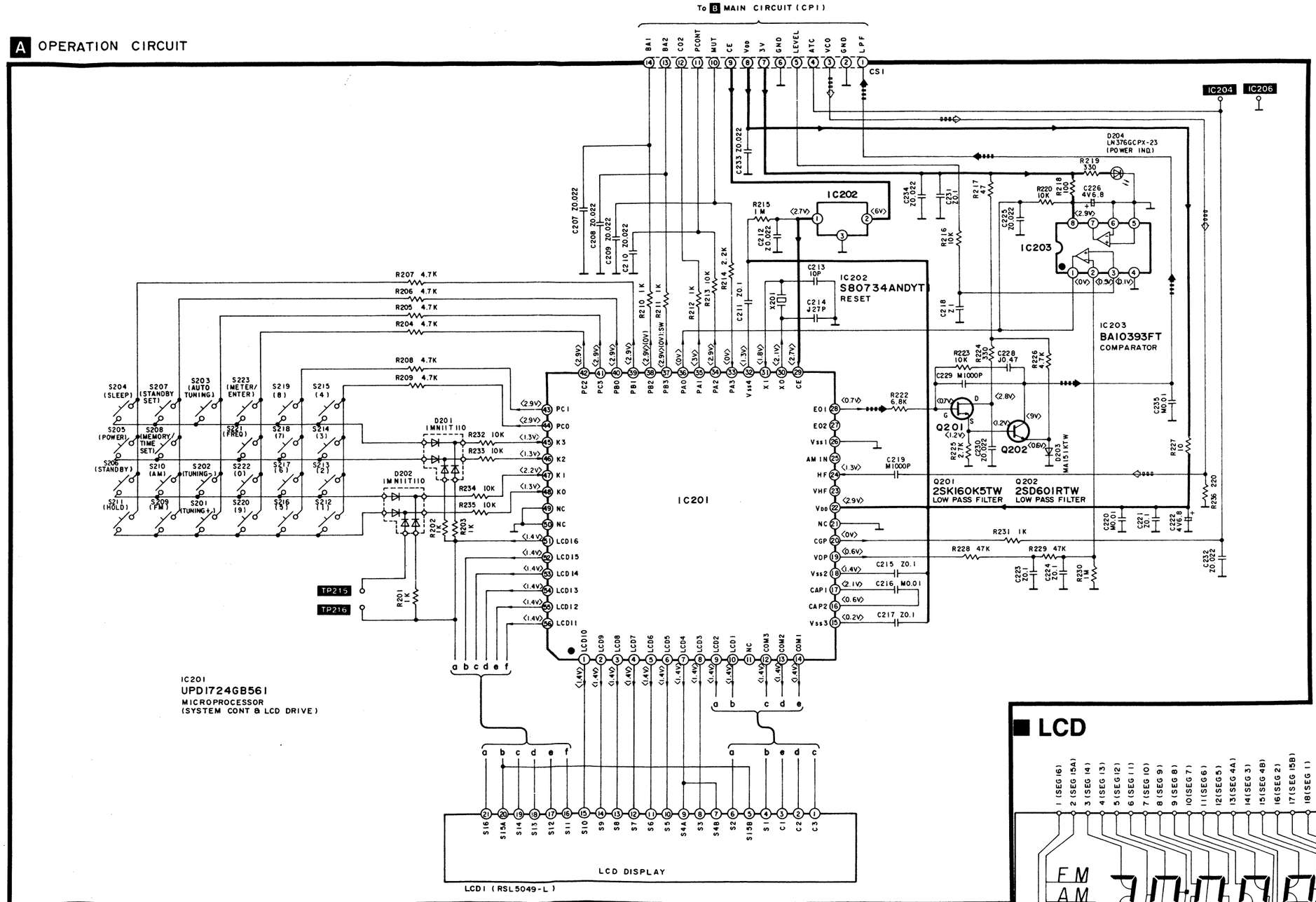
B MAIN CIRCUIT

Q1 2SK436A21TW LW/MW/SW RF AMP
Q2 RVTFMG5TW SWITCHING (LW/MW/SW CONT.)
Q3 2SK436A21TW FM RF AMP
Q4,5 2SK436A21TW AM MIXER
Q6 2SK238K16TW AM IF AMP
Q7 2SD601RTW SWITCHING (AM 2nd OSC)
Q8 2SC2404CTW LW/MW/SW 1st OSC BUFFER AMP
Q9 RVTDTC114YRW SWITCHING (AM: ON)
Q10 2SC2404CTW LW/MW/SW 1st OSC
Q11 2SC2404CTW BUFFER AMP
Q12 2SC2404CTW AM 2nd OSC
Q13 2SD601RTW SWITCHING
Q14 2SD601RTW AM 2nd LOCAL OSC
Q15 RVTDTC114YRW SWITCHING (SW: ON)
Q16 2SD601RTW AM IF AMP
Q17 RVTFMG5TW SWITCHING (SSB: ON)
Q18 2SD601RTW SWITCHING (SSB: ON)
Q19 2SB709RTW SWITCHING (AM: ON)
Q20 2SD601RTW AF AMP (FM)
Q21 2SD601RTW AF AMP (AM/SSB)
Q22 2SD601RTW SSB RESTORATION
Q23 2SB709RTW FILTER AMP
Q24 2SD601RTW FILTER AMP
Q25 2SD601RTW AF AMP
Q26 2SB709RTW SWITCHING (AM: ON)
Q27 2SC2404CTW BUFFER AMP (FM OSC)
Q28,29 2SB709RTW REGULATOR
Q30 RVTDTC114YRW SWITCHING (FM: ON)
Q31 2SD601RTW SWITCHING
Q32 2SD601RTW MUTING
Q33 2SK160K4TW STABILIZER
Q34 2SD601RTW REGULATOR
Q35 2SD601RTW DC-DC CONVERTER
Q36 2SD601RTW DC-DC CONVERTER
Q37 RVTDTC114Y POWER SUPPLY REGULATOR
Q38 2SB1121TMTW POWER SUPPLY
Q40 RVTDTC114YRW SWITCHING (FM: ON)
IC1 AN7205 FM FRONT END
IC2 LA1207 FM/LW/MW/SW IF AMP, DET, AF AMP, AM MIX
IC3 LA4147 POWER AMP
IC4 RVILA5003 REGULATOR
IC5 S81230AGRBT1 REGULATOR
IC6 BA10393FT COMPARATOR
D1 1SS353
D2 RVDSVC203ATW
D3 RVDSVC203ATW
D4 RVDSVC203ATW
D5 RVDSVC203ATW
D6 RVD1SS135TA
D7 MA728TW
D8 MA728TW
D9 0A90A-M
D10 MA700TA
D11 MA700TA
D13 MA165TA
D14 MA4120MTA
D15 MA724TW
D16 MA165TA
D17 MA165TA
D18 MA729
XF1 M3300P
CF1 CF2 CF3
Z1
VR1 50K(D)
VR2 100K(B)
VR3 50K(B)
VR4 50K(B)
J2 SW EXT ANT
TELESCOPIC ANTENNA
TP1 TP2 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP19 TP20 TP22 TP24 TP32 TP37 TP38
AM +B LINE
FM +B LINE
3V
6V
To A OPERATION CIRCUIT (CS1)
LPF GND VCO ATC LEVEL GNG 3V Vbb CE MUT PCONT CO2 BA2 BAI CPI

10 11 12 13 14 15 16 17 18 19

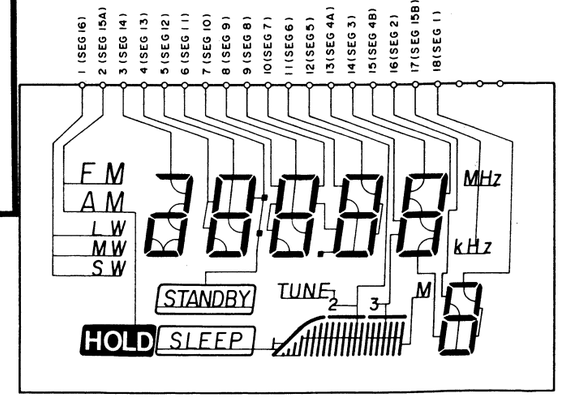
A OPERATION CIRCUIT





: +B Line
: LW/MW/SW Signal Line
: Main Signal Line
: FM/LW/MW/SW VCO Out Line
: LW/MW/SW 2nd OSC Signal Line
: FM/LW/MW/SW Vcap Line
: FM Signal Line

■ LCD

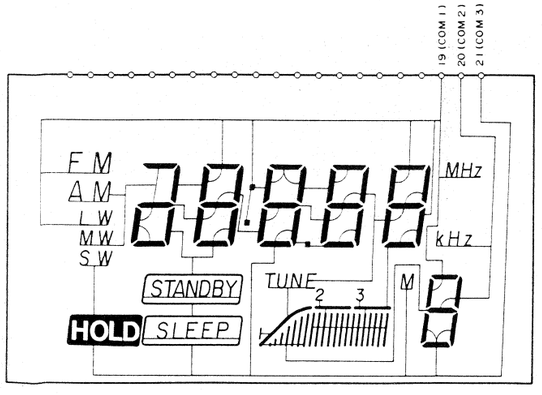


Notes:

- S1-1, S1-2 : Sensitivity select switch in "DX" position. (D...DX, L...LOCAL)
- S2-1, S2-2 : AM mode select switch in "NOR/FIX" position. (A.F...NOR/FIX, A.V...NOR/VARIABLE, S...SSB/VARIABLE)
- S3-1, S3-2 : Tone select switch in "HIGH" position. (H...HIGH, L...LOW)
- S201 : Tuning (+) switch.
- S202 : Tuning (−) switch.
- S203 : Auto tuning switch.
- S204 : Sleep switch.
- S205 : Power switch.
- S206 : Standby switch.
- S207 : Standby set switch.
- S208 : Memory/time set switch.
- S209 : Band select (FM) switch.
- S210 : Band select (AM) switch.
- S211 : Hold switch.
- S212 : Number/memory channel/meter band (1/75 m) switch.
- S213 : Number/memory channel/meter band (2/60 m) switch.
- S214 : Number/memory channel/meter band (3/49 m) switch.
- S215 : Number/memroy channel/meter band (4/41 m) switch.
- S216 : Number/memory channel/meter band (5/31 m) switch.
- S217 : Number/memory channel/meter band (6/25 m) switch.
- S218 : Number/memory channel/meter band (7/21 m) switch.
- S219 : Number/memory channel/meter band (8/19 m) switch.
- S220 : Number/memory channel/meter band (9/16 m) switch.
- S221 : Frequency direct access switch.
- S222 : Number/meter band (0/13 m)/memory search switch.
- S223 : Meter band direct access/enter switch.
- VR1 : Volume control VR.
- VR2 : Fine tuning control VR.
- VR3 : AM 2nd OSC adjustment VR.
- VR4 : FM stop frequency adjustment VR.
- DC voltage measurements are taken with electronics voltmeter.
  The negative terminal of the battery provides negative meter connection point.
  ...FM ...AM ...MUTING ...SSB
- Battery current

Power OFF (back-up)	36 µA
No signal	51 mA (FM)
	57 mA (LW/MW)
	54 mA (SW)
Maximum output	159 mA (FM)
	156 mA (LW/MW)
	160 mA (SW)

- **This schematic diagram may be modified at any time with the development of new technology.**



■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

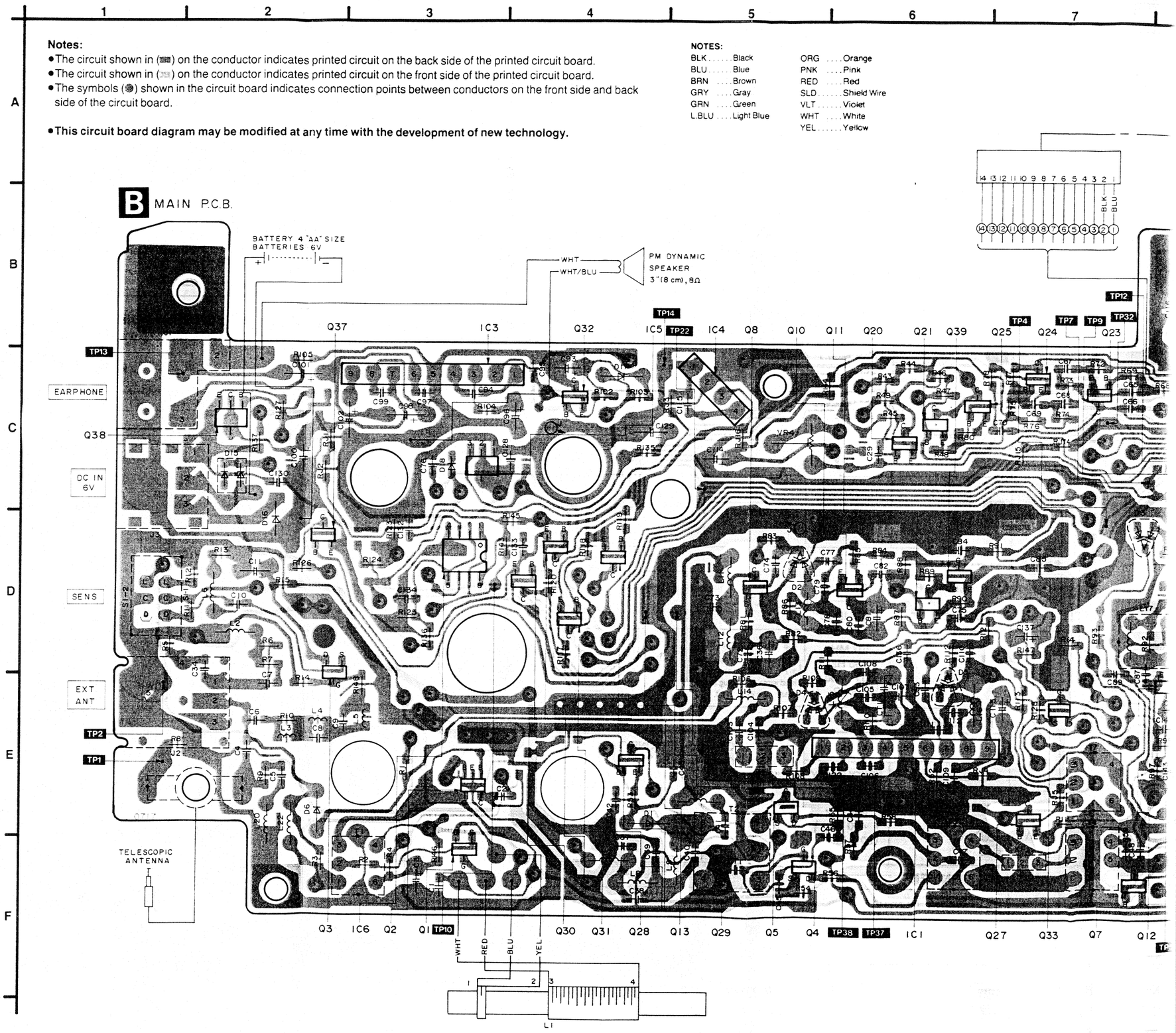
Notes:

- The circuit shown in (▭) on the conductor indicates printed circuit on the back side of the printed circuit board.
- The circuit shown in (▭) on the conductor indicates printed circuit on the front side of the printed circuit board.
- The symbols (◉) shown in the circuit board indicates connection points between conductors on the front side and back side of the circuit board.

- **This circuit board diagram may be modified at any time with the development of new technology.**

NOTES:

BLK	Black	ORG	Orange
BLU	Blue	PNK	Pink
BRN	Brown	RED	Red
GRY	Gray	SLD	Shield Wire
GRN	Green	VLT	Violet
L.BLU	Light Blue	WHT	White
		YEL	Yellow



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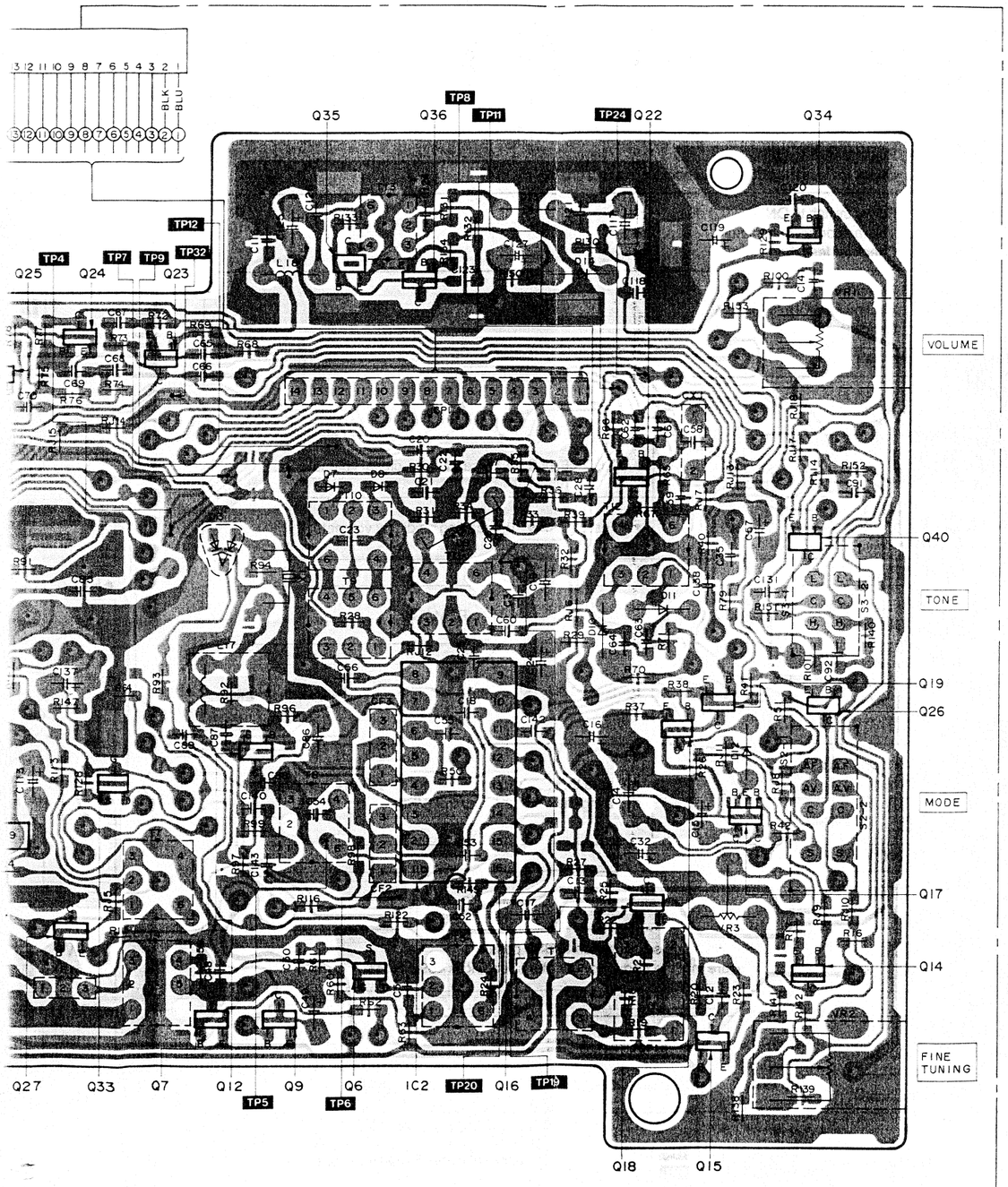
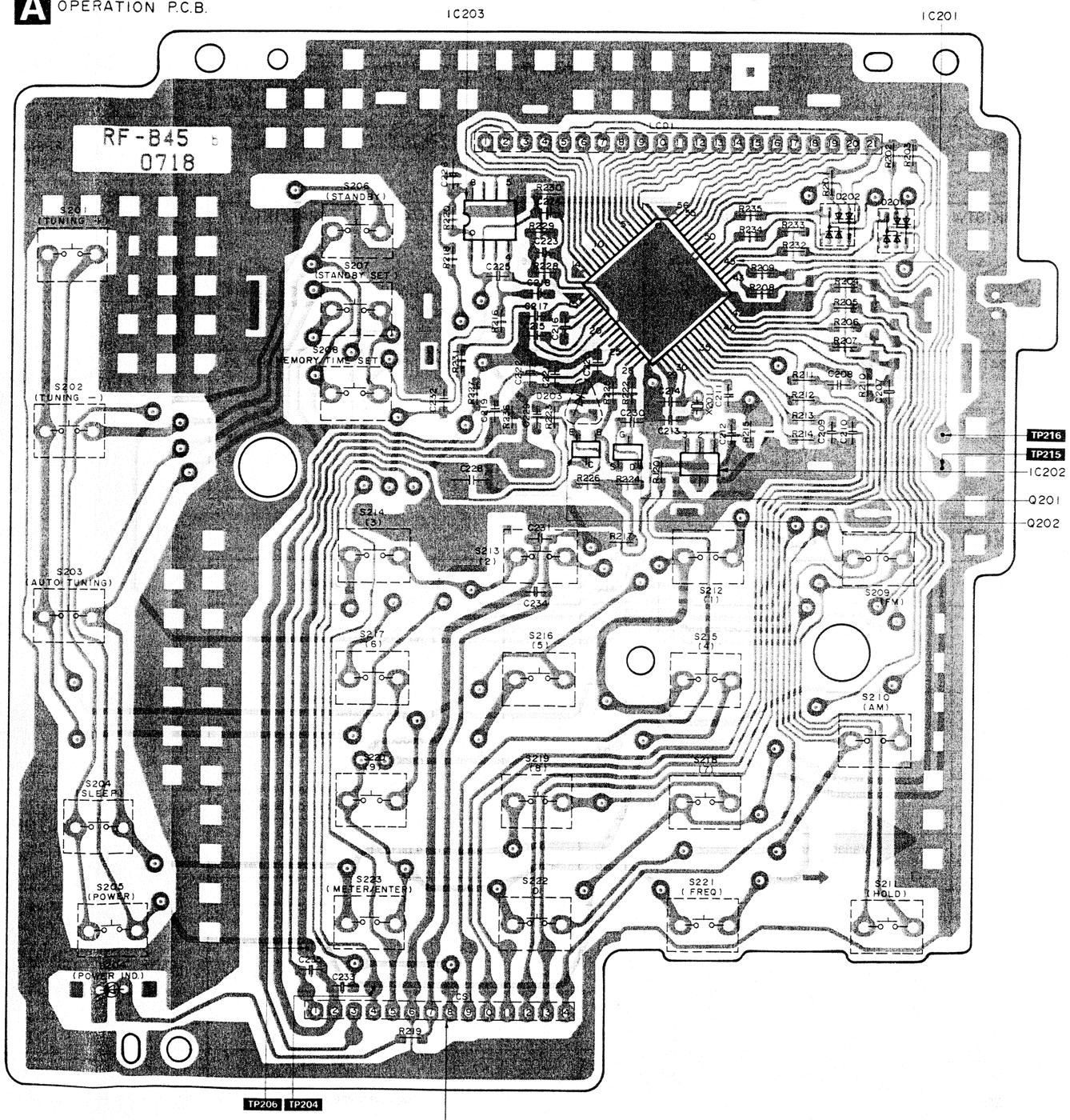
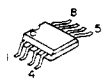
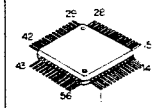
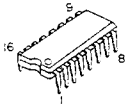
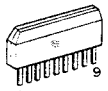
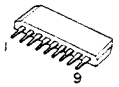
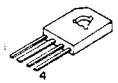
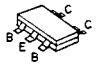
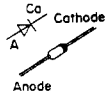
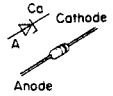
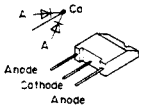
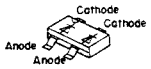
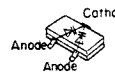
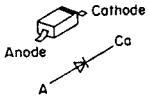
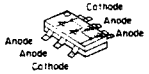
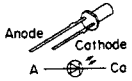


A OPERATION P.C.B.



■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

BA10393FT 	S80734ANDYT1 S81230AGRBT1	UPD1724GB561 	LA1207 	LA4147 	AN7205 
RVILA5003 		2SB709RTW 2SC2404CTW 2SD601RTW RVTDTC114YRW	RVTFMG5TW 	2SB1121TMTW	2SK160K4TW 2SK160K5TW 2SK436A21TW
2SK238K16TW	MA165TA MA700TA RVD1SS135TA	0A90A-M 	MA4120MTA 	MA553 	MA151KTW
MA724TW 	MA701TW	RVDSVC203ATW 	MA728TW MA729TW 	IMN11T110 	LN376GC PX-23 

■ FUNCTION OF IC TERMINALS

Pin No.	Mark	I/O Division	Function
1 / 10	LCD10 / LCD1	O	Output terminals for LCD segment signals.
11	NC	—	—
12 / 14	COM3 / COM1	O	Output terminals for LCD common signals.
15	VSS3	—	Reference voltage setting capacitor connected terminals for LCD.
16・17	CAP1・2	—	
18	VSS2	—	
19	VDP	O	Variable duty port.
20	CGP	O	Clock generator port.
21	NC	—	—
22	VDD	I	A voltage of 1.8~3.6 V supply to this terminal.
23	VHF	—	—
24	HF	I	Input terminal for the FM local oscillator (VCO) signal.
25	AM IN	—	—
26	VSS1	—	Ground terminal.
27	EO1	—	—
28	EO2	O	PLL error output terminal.

Pin No.	Mark	I/O Division	Function
29	CE	I	Device select signal input terminal. Set the terminal high to select adevice and low to deselect a device.
30	XO	O	Terminal used for connecting a quartz osillator.
31	XI	I	Connects a 75 kHz quartz oscillator.
32	VSS4	—	Terminal used for connecting a capacitor for regulator circuit.
33 / 36	PA3 / PA0	I/O	4 bit I/O port.
37・38	PB3・2	O	4 bit Output port.
39・40	PB1・0	O	Output terminals for key signals.
41 / 44	PC3 / PC0		
45 / 48	K3 / K0	I	Input terminals for key return signals.
49・50	NC	—	—
51 / 56	LCD16 / LCD11	O	Output terminals for LCD segment signals.

■ MEASUREMENTS AND ADJUSTMENTS

•ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

- Set power source voltage to 6 V DC.
- Set sensitivity select switch to DX.
- Set AM mode select switch to NOR/FIX.
- Set tone select switch to HIGH.
- Set volume control to center.

EQUIPMENT REQUIRED

- Frequency counter
- Ampere meter
- Signal generator (FM/AM)
- DC digital voltmenter
- Oscilloscope
- FM/AM IF sweep generator
- IF monitor scope

•BATTERY CURRENT CHECK

BAND	FREQUENCY DISPLAY SETTING	REMARKS
Power OFF	——	1. Power switch to OFF. 2. Check for less than 50 μA. (for back-up current check)
FM	87.50 MHz	1. Power switch to ON. 2. Volume control to minimum. 3. Check for less than 70 mA.
AM (SW)	1620 kHz	1. Power switch to ON. 2. Volume control to minimum. 3. Check for less than 80 mA.

•FM AND AM (SW) VCO ALIGNMENT

BAND	FREQUENCY DISPLAY SETTING	DC DIGITAL VOLTMETER	ADJUSTMENT	REMARKS
FM	108.00 MHz	TP24...(+) TP4...(−)	L16	•Adjust L16 for 9±0.1 V reading on digital voltmeter.
AM (SW)	29995 kHz	TP24...(+) TP4...(−)	L13	•Adjust L13 for 9±0.1 reading on digital voltmeter.

•AM 2nd LOCAL OSC ALIGNMENT

BAND	FREQUENCY DISPLAY SETTING	FREQUENCY COUNTER	ADJUSTMENT	REMARKS
AM	Point of noninterference.	Connect to TP5 through 10 pf. TP5...(+) TP6...(−)	VR3	•Adjust VR3 for 55386±0.1 kHz reading on frequency counter.
AM	Point of noninterference.	Connect to TP5 through 10 pf. TP5...(+) TP6...(−)	——	•Assure that the frequency control's reading is variable by rotating the frequency control (VR2).

•SSB RESTORATION FREQUENCY (B.F.O.) CHECK

BAND	FREQUENCY DISPLAY SETTING	FREQUENCY COUNTER	REMARKS
AM	Point of noninterference.	TP11...(+) TP12...(−)	1. Set AM mode select switch to SSB position. 2. Assure that the frequency counter's reading is 459±1 kHz.

•FM IF CHECK

BAND	IF SWEEP GENERATOR		FREQUENCY DISPLAY SETTING	IF MONITOR SCOPE or OSCILLOSCOPE	REMARKS
	CONNECTIONS	FREQUENCY			
FM	Connect to TP35 through 1 pF. TP35...(+) TP9...(−)	10.7 MHz (400 Hz 30% Mod.)	Point of noninterference. (on/about 90 MHz)	TP7...(+) TP9...(−)	•Assure that the waveform shown in Fig. 3 appears in the IF monitor scope or oscilloscope.

•FM AUTO STOP ALIGNMENT

BAND	SIGNAL GENERATOR		FREQUENCY DISPLAY SETTING	DIGITAL VOLTMETER	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
FM	TP1...(+) TP2...(−)	106 MHz (400 Hz, 30% Mod. 60 dB)	106 MHz	TP7...(+) TP20...(−)	T10	•Adjust T10 for 0±10 mV reading on digital voltmeter.

•FM RF ALIGNMENT

BAND	SIGNAL GENERATOR		FREQUENCY DISPLAY SETTING	DIGITAL VOLTMETER or OSCILLOSCOPE	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
FM	TP1...(+) TP2...(−)	90 MHz (400 Hz, 30% Mod.) 12 dB or less	90 MHz	Earphone Jack (8Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	L15	•Adjust for maximum output.
FM	TP1...(+) TP2...(−)	106 MHz (400 Hz, 30% Mod.) 12 dB or less	106 MHz	Earphone Jack (8Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	CT1	•Adjust for maximum output.

•FM STOP FREQUENCY ALIGNMENT

BAND	SIGNAL GENERATOR		FREQUENCY DISPLAY SETTING	OSCILLOSCOPE	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
FM	TP1...(+) TP2...(−)	105.95 MHz (400 Hz, 30% Mod. 60 dB)	106 MHz	TP10...(+) TP32...(−)	VR4	•Adjust VR4 for maximum output.

•FM AUTO STOP CHECK

BAND	SIGNAL GENERATOR		OUTPUT	REMARKS
	CONNECTIONS	FREQUENCY		
FM	TP1...(+) TP2...(−)	107 MHz (400 Hz, 30% Mod. 26 dB)	Earphone Jack (8Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	1. Press the Auto Tuning Switch (S203) to start the auto tuning. 2. Assure that the auto tuning is stopped at 107 MHz and a signal is received.

•AM 2nd IF ALIGNMENT

BAND	IF SWEEP GENERATOR		FREQUENCY DISPLAY SETTING	IF MONITOR SCOPE or OSCILLOSCOPE	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
AM (MW)	Connect to TP19 through 1 pF. TP19...(+) TP9...(−)	459 kHz (400 Hz, 30% Mod.)	Point of non-interference. (on/about 603 kHz)	TP8...(+) TP9...(−)	T6 and T11	•Adjust for maximum output.

•AM 1st IF ALIGNMENT

BAND	SIGNAL GENERATOR		FREQUENCY DISPLAY SETTING	OSCILLOSCOPE	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
AM (SW)	Connect to TP1 through 15 pF. TP1...(+) TP2...(−)	55.845 MHz (400 Hz, 30% Mod.)	10500 kHz	Earphone Jack (8Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	T5	•Adjust for maximum output.

•AM AUTO STOP CHECK

BAND	SIGNAL GENERATOR		OUTPUT	REMARKS
	CONNECTIONS	FREQUENCY		
AM (SW)	Connect to TP1 through 15 pF. TP1...(+) TP2...(−)	10600 kHz (400 Hz, 30% Mod. 26 dB)	Earphone Jack (8Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	1. Press the Auto Tuning Switch (S203) to start the auto tuning. 2. Assure that the auto tuning is stopped at 10600 kHz and a signal is received.

•SSB CHECK

BAND	SIGNAL GENERATOR		OUTPUT	REMARKS
	CONNECTIONS	FREQUENCY		
AM (SW)	Connect to TP1 through 15 pF. TP1...(+) TP2...(−)	10600 kHz (400 Hz, 30% Mod. 26 dB)	Earphone Jack (8Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	•Rotate the fine tuning control to assure that the best sound is output.

■ ALIGNMENT POINT

•Refer to Circuit Board and Wiring Connection Diagram for test point locations.

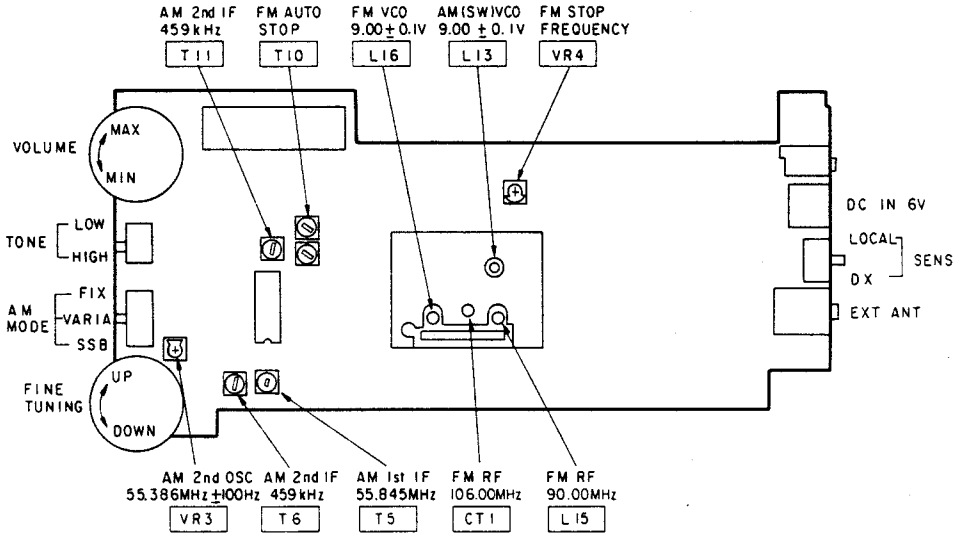


Fig. 1

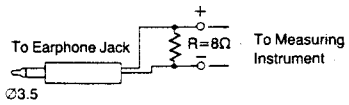
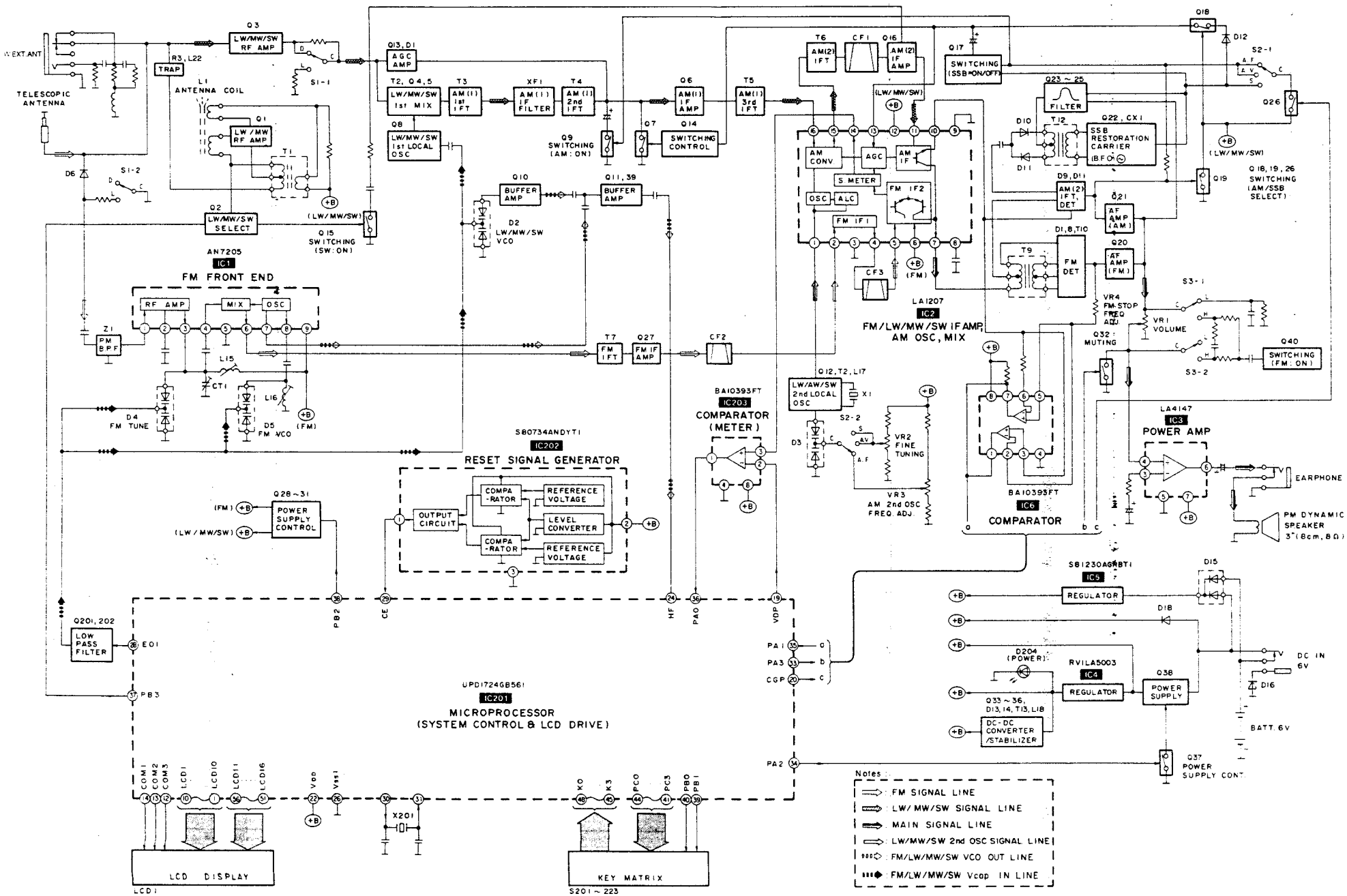


Fig. 2

Fig. 3

■ BLOCK DIAGRAM



■ REPLACEMENT PARTS LIST

Notes : • Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
• The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC1	AN7205	I. C, FRONT END	
IC2	LA1207	I. C, IF AMP/DET. etc	
IC3	LA4147	I. C, POWER AMP	
IC4	RVILA5003	I. C, REGULATOR	
IC5	S81230AGRBT1	I. C, REGULATOR	
IC6	BA10393FT	I. C, COMPARATOR	
IC201	UPD1724GB561	I. C, MICROPROSSESOR	
IC202	S80734ANDYT1	I. C, RESET	
IC203	BA10393FT	I. C, COMPARATOR	
		TRANSISTOR(S)	
Q1	2SK436A21TW	TRANSISTOR	
Q2	RVTFMG5TW	TRANSISTOR	
Q3	2SK436A21TW	TRANSISTOR	
Q4	2SK436A21TW	TRANSISTOR	
Q5	2SK436A21TW	TRANSISTOR	
Q6	2SK238K16TW	TRANSISTOR	
Q7	2SD601RTW	TRANSISTOR	
Q8	2SC2404CTW	TRANSISTOR	
Q9	RVTDTC114YRW	TRANSISTOR	
Q10	2SC2404CTW	TRANSISTOR	
Q11	2SC2404CTW	TRANSISTOR	
Q12	2SC2404CTW	TRANSISTOR	
Q13	2SD601RTW	TRANSISTOR	
Q14	2SD601RTW	TRANSISTOR	
Q15	RVTDTC114YRW	TRANSISTOR	
Q16	2SD601RTW	TRANSISTOR	
Q17	RVTFMG5TW	TRANSISTOR	
Q18	2SD601RTW	TRANSISTOR	
Q19	2SB709RTW	TRANSISTOR	
Q20	2SD601RTW	TRANSISTOR	
Q21	2SD601RTW	TRANSISTOR	
Q22	2SD601RTW	TRANSISTOR	
Q23	2SB709RTW	TRANSISTOR	
Q24	2SD601RTW	TRANSISTOR	
Q25	2SD601RTW	TRANSISTOR	
Q26	2SB709RTW	TRANSISTOR	
Q27	2SC2404CTW	TRANSISTOR	
Q28	2SB709RTW	TRANSISTOR	
Q29	2SB709RTW	TRANSISTOR	
Q30	RVTDTC114YRW	TRANSISTOR	
Q31	2SD601RTW	TRANSISTOR	
Q32	2SD601RTW	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
Q33	2SK160K4TW	TRANSISTOR	
Q34	2SD601RTW	TRANSISTOR	
Q35	2SD601RTW	TRANSISTOR	
Q36	2SD601RTW	TRANSISTOR	
Q37	RVTDTC114YRW	TRANSISTOR	
Q38	2SB1121TMTW	TRANSISTOR	
Q39	2SC2404CTW	TRANSISTOR	
Q40	RVTDTC114YRW	TRANSISTOR	
Q201	2SK160K5TW	TRANSISTOR	
Q202	2SD601RTW	TRANSISTOR	
		DIODE(S)	
D1	MA553	DIODE	
D2	RVDSVC203ATW	DIODE	
D3	RVDSVC203ATW	DIODE	
D4	RVDSVC203ATW	DIODE	
D5	RVDSVC203ATW	DIODE	
D6	RVD1SS135TA	DIODE	
D7	MA728TW	DIODE	
D8	MA728TW	DIODE	
D9	GA90A-M	DIODE	
D10	MA700TA	DIODE	
D11	MA700TA	DIODE	
D12	MA165TA	DIODE	
D13	MA165TA	DIODE	
D14	MA4120MTA	DIODE	
D15	MA724TW	DIODE	
D16	MA701TW	DIODE	
D17	MA165TA	DIODE	
D18	MA729TW	DIODE	
D201	1MN11T110	DIODE	
D202	1MN11T110	DIODE	
D203	MA151KTW	DIODE	
D204	LN376GCPX-23	LED	
		VARIABLE RESISTOR(S)	
VR1	EVUJ05T02D54	VOLUME	
VR2	EVUJ05T02B15	FINE TUNING	
VR3	EVND4AA00B54	AM ADJUSTMENT	
VR4	EVND4AA00B54	FM ADJUSTMENT	
		TRIMMER	
CT1	RCV10AF1S	TRIMMER CAPACITOR	

Ref. No.	Part No.	Part Name & Description	Remarks
		COIL(S)	
L1	RLV6E001-1	COIL	
L2	RLQZP220KT-Y	COIL	
L3	RELJHC6R8KTD	COIL	
L4	RELJHC1R0KTD	COIL	
L5	RELJFCR47KTD	COIL	
L6	RLQZP221KT-Y	COIL	
L7	RLQZPR47MT-Y	COIL	
L8	RLQZP1R0MT-Y	COIL	
L9	RLQZP1R5MT-Y	COIL	
L10	RLQZP1R0MT-Y	COIL	
L11	RLQZPR22MT-Y	COIL	
L12	RLQZPR56MT-Y	COIL	
L13	RL04N253-0	COIL	
L14	RLQZPR22MT-Y	COIL	
L15	RL04N256-0	COIL	
L16	RL04N125-0	COIL	
L17	RL03B003-T	COIL	
L18	RLQZP101KT-Y	COIL	
L20	RLQZP181KT-Y	COIL	
L22	RLQZP680KT-Y	COIL	
		TRANSFORMER(S)	
T1	RLA6C1-T	TRANSFORMER	
T2	RLA3Z11-0	TRANSFORMER	
T3	RLI3B001-T	TRANSFORMER	
T4	RLI3B002-T	TRANSFORMER	
T5	RLI3B003-T	TRANSFORMER	
T6	RLI2B006-T	TRANSFORMER	
T7	RLI4B011-M	TRANSFORMER	
T8	RL03B004-T	TRANSFORMER	
T9	RLK4B002-M	TRANSFORMER	
T10	RLK4B003-M	TRANSFORMER	
T11	RLI2B005-M	TRANSFORMER	
T12	RLI2A003-M	TRANSFORMER	
T13	RL09A002-M	TRANSFORMER	
T17	RL03B003-T	TRANSFORMER	
		FILTER(S)	
CF1	RLFASFR459I1	CERAMIC FILTER	
CF2	RLFFETWNA01L	CERAMIC FILTER	
CF3	RLFFETWNA01L	CERAMIC FILTER	
		COMPONENT COMBINATION	
Z1	RCRBWT001-H	COMPONENT COMBINATION	

Ref. No.	Part No.	Part Name & Description	Remarks
		OSCILLATOR(S)	
CX1	RSXZ459K001	OSCILLATOR	
X1	RSXA55M4S01	OSCILLATOR	
X201	RSXD75K0S05	OSCILLATOR	
XF1	RSXB55M8S01	OSCILLATOR	
		DISPLAY	
LCD1	RSL5049-L	LCD	
		SWITCH(ES)	
S1	RSS28006-M	SW, SENS	
S2	RSS28572A-M	SW, MODE	
S3	RSS3B382A-M	SW, TONE	
S201	EVQ21405R	SW, TUNING(+)	
S202	EVQ21405R	SW, TUNING(-)	
S203	EVQ21405R	SW, AUTO TUNING	
S204	EVQ21405R	SW, SLEEP	
S205	EVQ21405R	SW, POWER	
S206	EVQ21405R	SW, STANDBY	
S207	EVQ21405R	SW, STANDBY SET	
S208	EVQ21405R	SW, MEMORY/TIME SET	
S209	EVQ21405R	SW, FM	
S210	EVQ21405R	SW, AM(LW/MW/SW)	
S211	EVQ21405R	SW, HOLD	
S212	EVQ21405R	SW, 1/75m	
S213	EVQ21405R	SW, 2/60m	
S214	EVQ21405R	SW, 3/49m	
S215	EVQ21405R	SW, 4/41m	
S216	EVQ21405R	SW, 5/31m	
S217	EVQ21405R	SW, 6/25m	
S218	EVQ21405R	SW, 7/21m	
S219	EVQ21405R	SW, 8/19m	
S220	EVQ21405R	SW, 9/16m	
S221	EVQ21405R	SW, FREQ.	
S222	EVQ21405R	SW, 0/13m/MEMORY SEARCH	
S223	EVQ21405R	SW, METER/ENTER	
		JACK(S)	
J1	RJJD3MBZA-C	EARPHONE	
J2	RJJD5M2ZA-H	EXT. ANT.	
J3	RJJ1B1ZC-C	DC IN	
		CONNECTOR(S)	
CP1	REXD365	CONNECTOR	
CS1	RJP14G17ZA	CONNECTOR	

Notes : • Capacity valuse are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
• Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k (OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R1	ERJ6GEYJ470V	1/10W 47
R2	ERJ6GEYJ220V	1/10W 22
R3	ERJ6GEYJ472V	1/10W 4.7K
R4	ERJ6GEYJ220V	1/10W 22
R5	ERJ6GEYJ103V	1/10W 10K
R6	ERJ6GEYJ331V	1/10W 330
R7	ERJ6GEYJ330V	1/10W 33
R8	ERJ6GEYJ103V	1/10W 10K
R9	ERJ6GEYJ101V	1/10W 100
R10	ERJ6GEYJ152V	1/10W 1.5K
R11	ERJ6GEYJ102V	1/10W 1K
R12	ERJ6GEYJ470V	1/10W 47
R13	ERJ6GEYJ470V	1/10W 47
R14	ERJ6GEYJ473V	1/10W 47K
R15	ERJ6GEYJ220V	1/10W 22
R16	ERJ6GEYJ332V	1/10W 3.3K
R17	ERJ6GEYJ470V	1/10W 47
R18	ERJ6GEYJ332V	1/10W 3.3K
R19	ERJ6GEYJ471V	1/10W 470
R20	ERJ6GEYJ471V	1/10W 470
R21	ERJ6GEYJ332V	1/10W 3.3K
R22	ERJ6GEYJ472V	1/10W 4.7K
R23	ERJ6GEYJ331V	1/10W 330
R24	ERJ6GEYJ471V	1/10W 470
R25	ERJ6GEYJ102V	1/10W 1K
R26	ERJ6GEYJ104V	1/10W 100K
R27	ERJ6GEYJ221V	1/10W 220
R28	ERJ6GEYJ221V	1/10W 220
R29	ERJ6GEYJ470V	1/10W 47
R30	ERJ6GEYJ102V	1/10W 1K
R31	ERJ6GEYJ102V	1/10W 1K
R32	ERJ6GEYJ472V	1/10W 4.7K
R33	ERJ6GEYJ332V	1/10W 3.3K
R34	ERJ6GEYJ103V	1/10W 10K
R35	ERJ6GEYJ103V	1/10W 10K
R36	ERJ6GEYJ472V	1/10W 4.7K
R37	ERJ6GEYJ221V	1/10W 220
R38	ERJ6GEYJ153V	1/10W 15K
R39	ERJ6GEYJ153V	1/10W 15K
R40	ERJ6GEYJ473V	1/10W 47K
R41	ERJ6GEYJ103V	1/10W 10K
R42	ERJ6GEYJ102V	1/10W 1K
R43	ERJ6GEYJ104V	1/10W 100K
R44	*ERJ6GEYJ104V*	*1/10W 100K*
R45	ERJ6GEYJ152V	1/10W 1.5K
R46	ERJ6GEYJ104V	1/10W 100K

Ref. No.	Part No.	Values & Remarks
R47	ERJ6GEYJ104V	1/10W 100K
R48	ERJ6GEYJ332V	1/10W 3.3K
R49	ERJ6GEYJ222V	1/10W 2.2K
R50	ERJ6GEYJ220V	1/10W 22
R51	ERJ6GEYJ103V	1/10W 10K
R52	ERJ6GEYJ332V	1/10W 3.3K
R53	ERJ6GEYJ221V	1/10W 220
R54	ERJ6GEYJ102V	1/10W 1K
R55	ERJ6GEYJ102V	1/10W 1K
R56	ERJ6GEYJ101V	1/10W 100
R57	ERJ6GEYJ101V	1/10W 100
R58	ERJ6GEYJ101V	1/10W 100
R59	ERJ6GEYJ332V	1/10W 3.3K
R60	ERJ6GEYJ223V	1/10W 22K
R61	ERJ6GEYJ101V	1/10W 100
R62	ERJ6GEYJ104V	1/10W 100K
R63	ERJ6GEYJ470V	1/10W 47
R64	ERJ6GEYJ472V	1/10W 4.7K
R65	ERJ6GEYJ224V	1/10W 220K
R66	ERJ6GEYJ152V	1/10W 1.5K
R67	ERJ6GEYJ333V	1/10W 33K
R68	ERJ6GEYJ153V	1/10W 15K
R69	ERJ6GEYJ683V	1/10W 68K
R70	ERJ6GEYJ472V	1/10W 4.7K
R71	ERJ6GEYJ472V	1/10W 4.7K
R72	ERJ6GEYJ472V	1/10W 4.7K
R73	ERJ6GEYJ153V	1/10W 15K
R74	ERJ6GEYJ473V	1/10W 4.7K
R75	ERJ6GEYJ224V	1/10W 220K
R76	ERJ6GEYJ472V	1/10W 4.7K
R77	ERJ6GEYJ104V	1/10W 100K
R78	ERJ6GEYJ472V	1/10W 4.7K
R79	ERJ6GEYJ101V	1/10W 100
R80	ERJ6GEYJ152V	1/10W 1.5K
R81	ERJ6GEYJ104V	1/10W 100K
R82	ERJ6GEYJ101V	1/10W 100
R83	ERJ6GEYJ103V	1/10W 10K
R84	ERJ6GEYJ104V	1/10W 100K
R85	ERJ6GEYJ101V	1/10W 100
R86	ERJ6GEYJ102V	1/10W 1K
R87	ERJ6GEYJ151V	1/10W 150
R88	ERJ6GEYJ104V	1/10W 100K
R89	ERJ6GEYJ151V	1/10W 150
R90	ERJ6GEYJ102V	1/10W 1K
R91	ERJ6GEYJ221V	1/10W 220
R92	ERJ6GEYJ472V	1/10W 4.7K
R93	*ERJ6GEYJ103V*	*1/10W 10K*
R94	ERJ6GEYJ104V	1/10W 100K
R96	ERJ6GEYJ333V	1/10W 33K

Ref. No.	Part No.	Values & Remarks
R97	ERJ6GEYJ101V	1/10W 100
R98	ERJ6GEYJ470V	1/10W 47
R99	ERJ6GEYJ331V	1/10W 330
R100	ERJ6GEYJ222V	1/10W 2.2K
R101	ERJ6GEYJ153V	1/10W 15K
R102	ERJ6GEYJ102V	1/10W 1K
R103	ERJ6GEYJ223V	1/10W 22K
R104	ERJ6GEYJ331V	1/10W 330
R105	ERJ6GEYJ470V	1/10W 47
R106	ERJ6GEYJ152V	1/10W 1.5K
R107	ERJ6GEYJ101V	1/10W 100
R108	ERJ6GEYJ220V	1/10W 22
R109	ERJ6GEYJ104V	1/10W 100K
R110	ERJ6GEYJ104V	1/10W 100K
R111	ERJ6GEYJ220V	1/10W 22
R112	ERJ6GEYJ103V	1/10W 10K
R113	ERJ6GEYJ220V	1/10W 22
R114	ERJ6GEYJ103V	1/10W 10K
R115	ERJ6GEYJ472V	1/10W 4.7K
R116	ERJ6GEYJ101V	1/10W 100
R117	ERJ6GEYJ332V	1/10W 3.3K
R118	ERJ6GEYJ103V	1/10W 10K
R119	ERJ6GEYJ332V	1/10W 3.3K
R120	ERJ6GEYJ104V	1/10W 100K
R121	ERJ6GEYJ101V	1/10W 100
R122	ERJ6GEYJ103V	1/10W 10K
R123	ERJ6GEYJ104V	1/10W 100K
R124	ERJ6GEYJ473V	1/10W 47K
R125	ERJ6GEYJ224V	1/10W 220K
R126	ERJ6GEYJ222V	1/10W 2.2K
R127	ERJ6GEYJ473V	1/10W 47K
R128	ERJ6GEYJ472V	1/10W 4.7K
R129	ERJ6GEYJ103V	1/10W 10K
R130	ERJ6GEYJ101V	1/10W 100
R131	ERJ6GEYJ102V	1/10W 1K
R132	ERJ6GEYJ102V	1/10W 1K
R133	ERJ6GEYJ223V	1/10W 22K
R134	ERJ6GEYJ473V	1/10W 47K
R135	ERJ6GEYJ101V	1/10W 100
R136	ERJ6GEYJ333V	1/10W 33K
R137	ERJ6GEYJ102V	1/10W 1K
R138	ERJ6GEYJ103V	1/10W 10K
R139	ERJ6GEYJ473V	1/10W 47K
R140	ERJ6GEYJ222V	1/10W 2.2K
R141	ERJ6GEYJ473V	1/10W 47K
R142	ERJ6GEYJ104V	1/10W 100K
R143	ERJ6GEYJ473V	1/10W 47K
R144	ERJ6GEYJ220V	1/10W 22
R145	ERJ6GEYJ101V	1/10W 100

Ref. No.	Part No.	Values & Remarks
R146	ERJ6GEYJ681V	1/10W 680
R147	ERJ6GEYJ472V	1/10W 4.7K
R148	ERJ6GEYJ101V	1/10W 100
R149	ERJ6GEYJ103V	1/10W 10K
R150	ERJ6GEYJ473V	1/10W 47K
R151	ERJ6GEYJ153V	1/10W 15K
R152	ERJ6GEYJ153V	1/10W 15K
R153	ERJ6GEYJ332V	1/10W 3.3K
R201	ERJ6GEYJ102V	1/10W 1K
R202	ERJ6GEYJ102V	1/10W 1K
R204	ERJ6GEYJ472V	1/10W 4.7K
R205	ERJ6GEYJ472V	1/10W 4.7K
R206	ERJ6GEYJ472V	1/10W 4.7K
R207	ERJ6GEYJ472V	1/10W 4.7K
R208	ERJ6GEYJ472V	1/10W 4.7K
R209	ERJ6GEYJ472V	1/10W 4.7K
R210	ERJ6GEYJ102V	1/10W 1K
R211	ERJ6GEYJ102V	1/10W 1K
R212	ERJ6GEYJ102V	1/10W 1K
R213	ERJ6GEYJ103V	1/10W 10K
R214	ERJ6GEYJ222V	1/10W 2.2K
R215	ERJ6GEYJ105V	1/10W 1M
R216	ERJ6GEYJ103V	1/10W 10K
R217	ERJ6GEYJ470V	1/10W 47
R218	ERJ6GEYJ101V	1/10W 100
R219	ERJ6GEYJ331V	1/10W 330
R220	ERJ6GEYJ103V	1/10W 10K
R222	ERJ6GEYJ682V	1/10W 6.8K
R223	ERJ6GEYJ103V	1/10W 10K
R224	ERJ6GEYJ331V	1/10W 330
R225	ERJ6GEYJ272V	1/10W 2.7K
R226	ERJ6GEYJ472V	1/10W 4.7K
R227	ERJ6GEYJ100V	1/10W 10
R228	ERJ6GEYJ473V	1/10W 47K
R229	ERJ6GEYJ473V	1/10W 47K
R230	ERJ6GEYJ105V	1/10W 1M
R231	ERJ6GEYJ102V	1/10W 1K
R232	ERJ6GEYJ103V	1/10W 10K
R233	ERJ6GEYJ103V	1/10W 10K
R234	ERJ6GEYJ103V	1/10W 10K
R235	ERJ6GEYJ103V	1/10W 10K
R236	ERJ6GEYJ221V	1/10W 220
		CHIP JUMPPER
RJ1	ERJ6GEYR00V	1/10W 0
RJ2	ERJ6GEYR00V	1/10W 0
RJ3	ERJ6GEYR00V	1/10W 0
RJ4	ERJ6GEYR00V	1/10W 0
RJ5	ERJ6GEYR00V	1/10W 0
RJ6	ERJ6GEYR00V	1/10W 0
RJ7	ERJ6GEYR00V	1/10W 0

Ref. No.	Part No.	Values & Remarks
RJ8	ERJ6GEYR00V	1/10W 0
RJ9	ERJ6GEYR00V	1/10W 0
RJ10	ERJ6GEYR00V	1/10W 0
RJ11	ERJ6GEYR00V	1/10W 0
RJ12	ERJ6GEYR00V	1/10W 0
RJ13	ERJ6GEYR00V	1/10W 0
RJ14	ERJ6GEYR00V	1/10W 0
RJ15	ERJ6GEYR00V	1/10W 0
RJ16	ERJ6GEYR00V	1/10W 0
RJ17	ERJ6GEYR00V	1/10W 0
RJ18	ERJ6GEYR00V	1/10W 0
RJ201	ERJ6GEYR00V	1/10W 0
		CAPACITORS
C1	ECUV1E104ZFN	25V 0.1U
C2	ECUV1E223MBN	25V 0.022U
C3	ECEA1CK100I	16V 10U
C4	ECUV1H680KCN	50V 68P
C5	ECUV1H680KCN	50V 68P
C6	ECUV1H221KN	50V 220P
C7	ECUV1H681KN	50V 680P
C8	ECUV1HD30CCN	50V 3P
C9	ECUV1HD50CCN	50V 5P
C10	ECUV1E223MBN	25V 0.022U
C11	ECEA1CK100I	16V 10U
C12	ECUV1E103MBN	25V 0.01U
C13	ECUV1E223ZFN	25V 0.022U
C14	ECEA1AK330I	10V 33U
C15	ECEA0GK221I	4V 220U
C16	ECEA1HK010I	50V 1U
C17	ECEA1CK100I	16V 10U
C18	ECUV1E104ZFN	25V 0.1U
C19	ECEA0GK470I	4V 47U
C20	ECUV1H221KN	50V 220P
C21	ECUV1H221KN	50V 220P
C22	ECUV1C105ZFN	16V 1U
C23	ECUV1E103MBN	25V 0.01U
C24	ECEA0GK470I	4V 47U
C25	ECUV1E223MBN	25V 0.022U
C26	ECUV1E223MBN	25V 0.022U
C27	ECUV1E223MBN	25V 0.022U
C28	ECUV1E103MBN	25V 0.01U
C29	ECUV1E104ZFN	25V 0.1U
C31	ECUV1E104ZFN	25V 0.1U
C32	ECEA1HK010I	50V 1U
C34	ECUV1H221KN	50V 220P
C35	ECUV1E104ZFN	25V 0.1U
C36	ECEA1CK100I	16V 10U
C37	ECUV1H820JCN	50V 82P
C38	ECUV1HD50CCN	50V 5P
C39	ECUV1H680KCN	50V 68P

Ref. No.	Part No.	Values & Remarks
C40	ECUV1HD20CCN	50V 2P
C41	ECUV1HD70DCN	50V 7P
C42	ECUV1E223MBN	25V 0.022
C43	ECUV1C105ZFN	16V 1U
C44	ECUV1E223ZFN	25V 0.022U
C45	ECUV1H332MBN	50V 3300P
C46	ECUV1H332MBN	50V 3300P
C47	ECUV1E103MBN	25V 0.01U
C48	ECUV1E103MBN	25V 0.01U
C49	ECEA1CK100I	16V 10U
C50	ECUV1E103MBN	25V 0.01U
C51	ECUV1E103MBN	25V 0.01U
C52	ECUV1E223MBN	25V 0.022U
C53	ECUV1E223ZFN	25V 0.022U
C54	ECUV1E103MBN	25V 0.01U
C55	ECUV1E223MBN	25V 0.022U
C56	ECUV1E223MBN	25V 0.022U
C57	ECEA1CK100I	16V 10U
C58	ECUV1H820JCN	50V 82P
C59	ECUV1E223ZFN	25V 0.022U
C60	ECUV1H150KCN	50V 15P
C61	ECUV1H102MBN	50V 1000P
C62	ECUV1H102MBN	50V 1000P
C63	ECUV1E103MBN	25V 0.01U
C64	ECUV1E103MBN	25V 0.01U
C65	ECUV1H332MBN	50V 3300P
C66	ECUV1H102MBN	50V 1000P
C67	ECUV1E223MBN	25V 0.022U
C68	ECUV1E223MBN	25V 0.022U
C69	ECUV1E223MBN	25V 0.022U
C70	ECUV1E103MBN	25V 0.01U
C71	ECUV1HD70DCN	50V 7P
C72	ECUV1E103MBN	25V 0.01U
C73	ECUV1H330KCN	50V 33P
C74	ECUV1HD30CCN	50V 3P
C75	ECUV1E103MBN	25V 0.01U
C76	ECUV1E333MBN	25V 0.033U
C77	ECUV1H150KCN	50V 15P
C78	ECUV1H220KCN	50V 22P
C79	ECUV1H330KCN	50V 33P
C80	ECUV1E103MBN	25V 0.01U
C81	ECEA0GK470I	4V 47U
C82	ECUV1HD20CCN	50V 2P
C83	ECUV1HD30CCN	50V 3P
C84	ECUV1E103MBN	25V 0.01U
C85	ECUV1H102MBN	50V 1000P
C86	ECEA0GK470I	4V 47U
C87	ECUV1H390JCN	50V 39P
C88	ECUV1E103MBN	25V 0.01U
C89	ECUV1C105ZFN	16V 1U
C91	ECUV1E333MBN	25V 0.033U
C92	ECUV1H681KN	50V 680P

Ref. No.	Part No.	Values & Remarks
C93	ECEA1HK2R2I	50V 2.2U
C94	ECUV1H101KN	50V 100P
C95	ECUV1H681KN	50V 680P
C96	ECEA0GK470I	4V 47U
C97	ECUV1E1042FN	25V 0.1U
C98	ECEA0JU221B	6.3V 220U
C99	ECUV1E103MBN	25V 0.01U
C100	ECEA1AU471C	10V 470U
C101	ECEA1AU221B	10V 220U
C102	ECEA1AU101B	10V 100U
C103	ECUV1H101KN	50V 100P
C104	ECUV1E103MBN	25V 0.01U
C105	ECUV1H102MBN	50V 0.001U
C106	ECUV1H050CCN	50V 5P
C107	ECUV1H100DCN	50V 10P
C108	ECUV1E103MBN	25V 0.01U
C109	ECUV1E103MBN	25V 0.01U
C110	ECUV1H102MBN	50V 1000P
C111	ECUV1H150KCN	50V 15P
C112	ECUV1H220KCN	50V 22P
C113	ECEA0GK470I	4V 47U
C114	ECEA0GK1011	4V 100U
C115	ECUV1E103MBN	25V 0.01U
C116	ECUV1E1042FN	25V 0.1U
C117	ECEA1CK100I	16V 10U
C118	ECUV1E1042FN	25V 0.1U

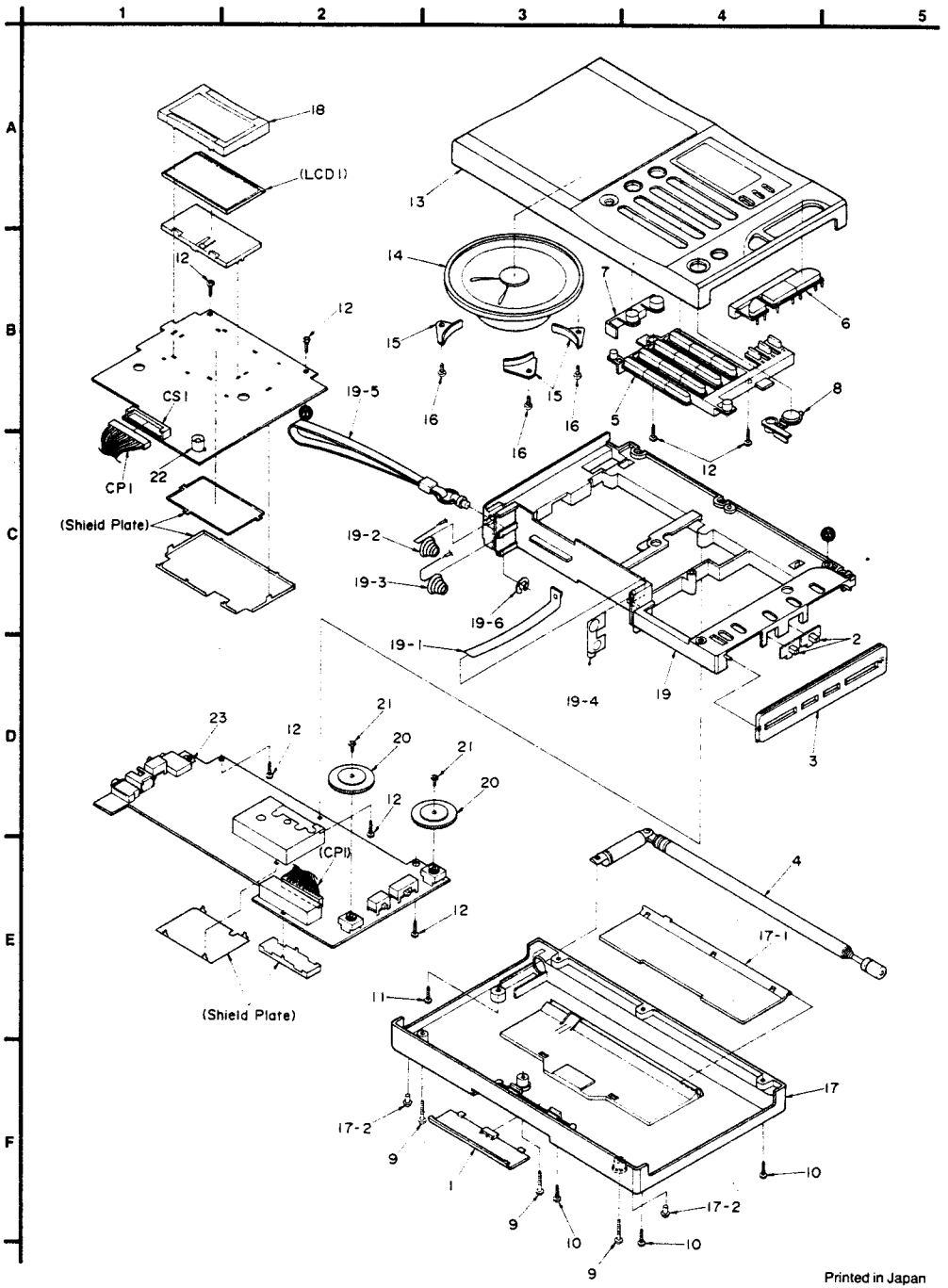
Ref. No.	Part No.	Values & Remarks
C119	ECEA1CK100I	16V 10U
C120	ECUV1E104ZFN	25V 0.1U
C121	ECUV1E223ZFN	25V 0.022U
C122	ECUV1H102MBN	50V 1000P
C123	ECUV1H220KCN	50V 22P
C124	ECUV1H150KCN	50V 15P
C125	ECEA0GK470I	4V 47U
C126	ECUV1E223ZFN	25V 0.022U
C127	ECEA1HK3R3	50V 3.3U
C128	ECUV1E223ZFN	25V 0.022U
C129	ECEA0JU102B	6.3V 1000U
C130	ECUV1E223ZFN	25V 0.022U
C131	ECUV1C104KB	16V 0.1U
C132	ECUV1E104ZFN	25V 0.1U
C133	ECUV1E104ZFN	25V 0.1U
C134	ECUV1C105ZFN	16V 1U
C136	ECUV1E103MBN	25V 0.01U
C137	ECEA1HK0R1	50V 0.1U
C138	ECUV1E223MBN	25V 0.022U
C140	ECUV1E103MBN	25V 0.01U
C141	ECUV1C104KB	16V 0.1U
C142	ECUV1E103MBN	25V 0.01U
C143	ECUV1H030CCN	50V 3P
C207	ECUV1E223ZFN	25V 0.022U
C208	ECUV1E223ZFN	25V 0.022U
C209	ECUV1E223ZFN	25V 0.022U

Ref. No.	Part No.	Values & Remarks
C210	ECUV1E223ZFN	25V 0.022U
C211	ECUV1E104ZFN	25V 0.1U
C212	ECUV1E223ZFN	25V 0.022U
C213	ECUV1H100DCN	50V 10P
C214	ECUV1H270JCN	50V 27P
C215	ECUV1E104ZFN	25V 0.1U
C216	ECUV1E103MBN	25V 0.01U
C217	ECUV1E104ZFN	25V 0.1U
C218	ECUV1C105ZFN	16V 1U
C219	ECUV1H102MBN	50V 1000P
C220	ECUV1E103MBN	25V 0.01U
C221	ECUV1E104ZFN	25V 0.1U
C222	RCSTOGY685LG	4V 6.8U
C223	ECUV1E104ZFN	25V 0.1U
C224	ECUV1E104ZFN	25V 0.1U
C225	ECUV1E223ZFN	25V 0.022U
C226	RCSTOGY685LG	4V 6.8U
C228	ECQV1H474JZ	50V 0.47U
C229	ECUV1H102MBN	50V 1000P
C230	ECUV1E223ZFN	25V 0.022U
C231	ECUV1E104ZFN	25V 0.1U
C232	ECUV1E223ZFN	25V 0.022U
C233	ECUV1E223ZFN	25V 0.022U
C234	ECUV1E223ZFN	25V 0.022U
C235	ECUV1E103MBN	25V 0.01U

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RKKD039-H	BATTERY COVER	
2	RGV0079-K	KNOB, TONE, MODE	
3	RGKD403A-H	ORNAMENT	
4	XEARS147GD-Y	TELESCOPIC ANTENNA	
5	RGU0615-H	BUTTON, 10KEY/FREQ./ENTER	
6	RGU0616-H	BUTTON, TUNING	
7	RGU0617-H	BUTTON, FM/AM	
8	RGU0618-H	BUTTON, POWER	
9	XTN26+12JFZ	SCREW	
10	XTN26+28JFZ	SCREW	
11	XYN3+C8FZ	SCREW	
12	XTV26+8G	SCREW	
13	RFKXFB45PP	FRONT CABINET ASS'Y	
14	EAS8P24S	SPEAKER	
15	RMS12B	HOLDER	
16	XTV26+8G	SCREW	
17	RFKNFB45PP	REAR CABINET ASS'Y	
17-1	RKA0049-H	STAND	
17-2	RHG348ZA-0	RUBBER	
18	RFKNFB45PP	SHIELD PLATE ASS'Y	
19	RFKJFB45PP	CHASSIS	

Ref. No.	Part No.	Part Name & Description	Remarks
19-1	RHS31ZA	BATTERY TAPE	
19-2	RJC30010	BATTERY TERMINAL(+)	
19-3	RJC70011	BATTERY TERMINAL(-)	
19-4	RJC93010	BATTERY TERMINAL(+/-)	
19-5	RKHD014-K	CARRING STRAP	
19-6	XUC3FY-V	E.RING	
20	RGX0012-K	KNOB, VOLUME	
21	XSHR17+3FZ	SCREW	
22	RMR0464	LED HOLDER	
23	RJT1073ZA	TERMINAL	
		PACKING MATERIALS	
P1	RPK0271	GIFT BOX	
P2	RPN5131ZA	PAD	
P3	RPH5542A	SHEET	
		ACCESORIES	
A1	RFC0013	CARRING CASE	
A2	XEH1A1-AB	EARPHONE	
A3	RSA0002	EXT. ANTENNA	
A4	RQT1135-Y	INSTRUCTION MANUAL	
A5	RQCA0122	GUIDE	

■ CABINET PARTS LOCATION



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